‘Metabolically Healthy’ Obesity Is ... Unhealthy

VITALS

Major Finding: Men who were obese at age 50 years but did not have metabolic syndrome or insulin resistance had 10-15 times the risk of type 2 diabetes as did normal-weight men after 10 and 20 years.

Data Source: Longitudinal study of 934 men.

Disclosures: The investigators said they had no relevant financial ties.

BY ROBERT FINN

SAN FRANCISCO — Men who are obese but “metabolically healthy” have no protection against developing type 2 diabetes, according to a large longitudinal study.

Compared with men of normal weight, men who have a body mass index greater than 30 kg/m^2 at age 50 were 10 times as likely to develop type 2 diabetes within 10 years, regardless of whether they met the criteria for metabolic syndrome or insulin resistance at baseline.

Other studies have shown that 25%-30% of individuals who are obese do not meet criteria for metabolic syndrome or insulin resistance. Earlier studies appeared to indicate that those individuals were unlikely to develop diabetes or cardiovascular disease. But those studies were hampered by a relatively short period of follow-up.

“Our conclusion from this study … is that metabolically healthy obesity is not very healthy, that it is not a benign condition,” said Dr. Lars Lind of the University of Uppsala, Sweden, the study’s lead investigator.

The investigators used data from the Uppsala Longitudinal Study of Adult Men, a cohort of men who were born during 1920-1924. At age 50 years 1,758 of these men were available for study; that number declined to 1,420 at age 60 and 934 at age 70.

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Obese men without metabolic syndrome had a high risk of developing diabetes.

The investigators defined normal weight as a BMI less than 25 kg/m^2, overweight as 25-30 kg/m^2, and obesity as more than 30 kg/m^2. They defined metabolic syndrome at age 50 years by standard NCEP/ATP III criteria, and they defined insulin resistance at age 50 years as the upper quartile of the homeostasis model assessment of insulin resistance. Men were said to have developed type 2 diabetes if they were undergoing antidiabetic treatment or if their fasting plasma glucose was greater than 7.0 mmol/L.

During 10 years of follow-up, 124 of the men developed diabetes, and that number increased to 169 after 20 years.

After correction for age, smoking, and LDL cholesterol level, obese men with and without metabolic syndrome had 10 times the risk of developing diabetes as did normal-weight men after 10 years. Overweight men without metabolic syndrome had a threefold increase in risk. All those increases in risk were statistically significant, Dr. Lind reported.

After 20 years, obese men without metabolic syndrome had 15 times the risk of developing diabetes and overweight men had 4 times the risk.

The situation with men who were not insulin resistant was similar. After 10 years, obese men with and without insulin resistance had a 15-fold increase in the risk of developing diabetes, and overweight men had a 3-fold increase in risk.

After 20 years, a statistically significant difference in risk appeared between obese men with and without insulin resistance. Men without insulin resistance were 15 times as likely to develop diabetes, while men with insulin resistance had a 30-fold increase in risk. But the 15-fold increase in risk among men without insulin resistance at baseline was still significantly elevated. ■